The FIRST LECTURE

being an Introduction to the

Military Architecture, or Fortifications.

Read Publiquely at

Sr. Balthazar Gerbiers ACADEMY.

PSALM. 144. ver. 1.

O de Davidis, Benedictus sit Jehova rupes mea; qui docet manus meas prælium, digitos meos bellum.

Blessed be the Lord my strength, which teacheth my hands to war, and my fingers to fight.

Imprimatur,

Hen: Scobell, *Cleric: Parliamenti.*

Printed at *London* for *Robert Ibbitson* dwelling in Smithfield neer *Hosier Lane*, 1650.

The FIRST
LECTURE

being an Introductory

Military Architecture, or Fortification.

Read Publiquely at

St Balthazar Gerbiers

ACADEMY.

TO HIS

Excellency, the Lord Generall

THOMAS

LORD *FAIREFAX.*

May it pleaſe your Excellency.

SHould I not proceed Methodically in the Dedication of the Lectures which are read in my Academy, for Languages, Sciences, and Noble Exerciſes (as in all affaires and Sciences, ſeemes moſt requiſite I ſhould neither remaine blameleſſe, nor be freed from Your Excellencies juſt cenſure, and Diſ-favour, if what concernes Military Architecture *or* Fortifications, *ſhould appeare to the Publique View under any other notion then your high Protection. And therefore it is, that I doe now preſume, to expoſe and ſubmit to your Excellency this firſt* Lecture *concerning* Military Architecture, *with intent to proceed upon all the following parts, which as it makes its entrance by the* Properties belonging to a Governour of a Frontier Town, *deſcribing how that the maine conſequence is in the choyce of the Perſon, ſo that he muſt neither be of too great*

a powe and credit, nor too inferiour a condition: My intention is, to proceed in the ensuing Lectures, on all the following parts, concerning all the Officers and those of Souldiers, God granting me dayes, and their State giving life to my Academy, which being a worke and settlement, wherein the glory of God, as well as the Honour of this Nation, the Incouragement *and* Improvement *of all* Lovers of Vertue, *are interessed. Cannot but promise to it selfe, that so great and eminent a person (as Your selfe) will not onely countenance and promote the same, for the compleating of all those who practice in Warres, but also for the benefit of all such as strive to be endowed with any other laudable Vertues. Such a Publick good, serving for example to strangers, and not to boast, that they only possesse, or are capable of those qualities, when the* English Nation *is every whit as able in body and minde as they can be. And this being Truth, I shall with the more confidence indeavour to continue in this undertaking, on the hopes that truth will make good what is and ever shall be my aime, by the settlement of such an Academy; so that your Excellency may please to take to Your selfe the due Title, not only of its* Mars, *but of its* Mecenas, *since all the* Vertues *in Your Excellency so fitly occurring, make you both in generall, and in particular, a true Lover of all what is honourable, generous, usefull, and necessary: And as my selfe to remaine*

Your Excellencies

most humble and most

From the Academy obedient Servant,

this 28 *of Decemb.*

1649. *Balthazar Gerbier.*

The

THE *FIRST LECTURE* TOUCHING FORTIFICATIONS

Read Publiquely at

Sir Balthazar Gerbiers Academy:

The Introduction

AS by the holy Writ it appears that God, who is the Creator of Heaven and Earth is likewiſe termed the Lord of Hoaſts, and Battels, ſo the Royal Prophet *David* ſought him, that he might *teach his hands to warre, and his fingers to fight*. God permits men to finde out inventions, and engines to wage war withall: And that ever ſince *Caine* brake the league of amity and brother-hood with *Abell*.

Experience is onely gotten by length of time, and not by birth, nor courage: For if ſo bee the firſt Rabins were wel grounded in what they affirme of *Caines* death, *Lamech* ſlew him with an Arrow, which time had taught men to make.

The ſeverall pretences of waging War are various: Nature warrants the firſt, which is *Selfe-defence*; *Reli-*

gion the ſecond, *Lawes* and *Liberties* the third.

The *Germans* roſe againſt the *Romans*, for the defence of their *Liberty*; the *Thebans* againſt *Alexander*; *Charlemaine* for *Religion*, warred on the *Saxons* for the ſpace of thirty and three yeares; *Pippin* King of *France* took up Armes againſt *Adolph* King of *Lombeardy* for the point of *Religion*: King *Lewis* the ſecond, for Pope *John* the third: *Geffery* of *Bullon* for *Religion* warred on the *Turke*. But it would require too long a diſcourſe to inſiſt on the rediculous ſlight pretences which have been made uſe of to wage War: That betweene the *Suiſſes*, and the Earle of *Burgandy*, proceeded from the taking away of a Cart loade of Skinnes, which the Lord of *Romond* tooke from a *Suiſſe*

Alcibiades his ambition was but a pretence to perſwade the *Athenians* for to attach *Sicilly*. *Scilla* and *Marius* only warred out of an ambition to reign: And as *Cyrus* and *Alexander*, ſo did *Cæſar* and *Pompey*. But *Theſeus* he purged the land of Robbers, and *Hercules* of Monſters.

Abominable warriours there have heen, who made their Wars deteſtable (as the *Switſers* did in the *Romans* time; when they waſted the land by fiering) and the *Campanians* were no leſſe to be abhorred, when *Agatocles* fighting in *Cicilly* being entred *Meſsina*, under pretence of friendſhip, he cauſed the greateſt part of the Citizens to be put to death, onely to get their meanes. Nor was it leſſe odious in *Hannibal*, when after he had given his word to *Gerion* a Towne neare *Miſena*, that afterwards he put all the Inhabitants to the Sword.

My glory ſaid a great Captaine is to vanquiſh, and

to

to pardon, As it is one of the moſt glorious and neceſ-ſarieſt parts of a great Captain to have the like hands, as the *Italian* famous Poet *Marino* deſcribes thoſe of *Emanuel* Duke of *Savoy* to have been: *Mani che ſi ſtringianno al Ferro, e ſi aprano al Oro,* Hands that cling to the Iron, and open unto the gold.

Let a Souldier fight well, and let the Generalls hand diſtribute gold, and reward. Let mee have gold ſaid a Captain to King *Phillip* the ſecond, and no fortreſſe ſhal hinder me its entrance. All ſuch places into the which an Aſſe loaden with gold can enter, are pregnable ſaid *Phillip* King of *Macedone*.

But *Marcus Curtius* his ambition was to command thoſe that had gold, for thereby hee commauded all, and ſuch a General, or Commander, is like a Lyon that commands an Army of Stagges, ſince nothing runnes ſwifter then gold. Yet better is it, ſaid a great Captain, to have an Army of Stagges commanded by a Lyon, then an Army of Lyons commanded by a Stagge.

But before we enter into the field, diſplay colours, and draw forth our Armies: as we finde God to be the Lord of Hoaſts and Battells, preſervation, the firſt law of Man; the defence of Religion, the next ſtrong tye; Lawes and Liberties the third grand intereſt and greateſt concerment of Nations. Let us then take along with us the preſcriptions of the Scripture concerning wars, *Deut.*20.11,12. *When thou commeſt nigh a City to fight againſt it, then proclaime a peace unto it, and it ſhall be, if it make thee anſwer of peace, and open unto thee, then it ſhall be, that all the people that are found therein ſhall be tributary unto thee, and they ſhall ſerve thee: But if they will make war againſt thee, then thou*

ſhalt

ſhalt beſiege it. Neither was this Commandement without a reſtriction, as we read in the 19.*v.* of the ſaid Chapter of *Deut. When thou ſhalt beſiege a City a long time, in making war againſt it, for to take it; Thou ſhalt not deſtroy the Trees thereof by forcing an Axe againſt them, for thou maiſt eat of them, and thou ſhalt not cut them downe, for the tree of the Field is mans life, to imploy them in the ſiege; onely the trees which thou knoweſt that they be not Trees for meat, thoſe thou ſhalt deſtroy, and cut them down.*

Thus duty fitly appearing in the Front, its moſt proper to begin with that duty proper to thoſe, who are to command both in the Field, and within the Towns; and ſo proceeding with the duty of thoſe that are to be commanded: We ſhall afterwards treat of all the particulars appertaining to the *Military Architecture*, or *Fortifications*; as likewiſe of the Diviſions of the ſeverall parts belonging unto the ſame. Of the explaining of ſuch termes and words as are proper to *Fortification*; of the maximes or generall rules to be obſerved in Fortifications, what we are to conſider before we begin to Fortifie; of the ſeverall ſeats, or ſcituations of places, of the qualities, and properties of the ſoyle: and laſtly, how to Flanke, and ſecure ones ſelfe.

All which conſiſting in demonſtrations, it will bee neceſſary to proceed with the names and termes proper in Fortifying, as well in the *Scenography*, as *Orthography*; The manner to finde out the Angles neceſſary in all Fortreſſes, and that by foure ſeverall wayes, according to the foure moſt famous Authors that have written on that Subject; to wit, *Merolois*, *Fritach*, *Errard*, and *Deville*.

How to divide a circumference, and therein to mark the

the ſeverall Polygones of all regular figures: The manner how to ſtake out, or trace the principall parts as well within, as without any place; and ſo forth: For that it will availe but little to know what is to be don, when the maine is unknown, and the way how to performe it, which ought to be learned by any man who deſires to be a perfect Souldier both for his honour and uſe; for as ignorance is deſpicable, ſo its prejudiciall: Let not any Souldier then perſwade himſelfe, that it can any wayes ſuffice him to goe but juſt as far as the pronunciation of the Alphabet; for that it will availe them no more, when they ſhall come to be put to the practicall part, then it will to any Auditory when they ſhall onely be told, what followeth, *viz.*

That the *Orthography*, or *Purfile* of a Fortreſſe, is a ſection, or a perpendicular line, running eaven with the Horizon, and that which repreſenteth unto our view the ſeverall parts of a Fortreſſe.

That the *Scenography*, it an explaining of the Names and Termes properly uſed in the Art of Fortifying.

That a walled place, where ſtore of houſes are ſeated together, whoſe inhabitants are governed by a Civill Magiſtrate, may properly be termed a Towne.

That a Fort, is a place, environed with Motes, Ramparts, and with Bulwarks, wherein a few Men, may defend themſelves againſt a greater number, and the aſſault of many.

That a Cittadell is a Fortreſſe of foure, five, ſix, or more Baſtions, which is joyned to a Town for to command, and keep it in awe.

That a Caſtle is an ancient kinde of building, with ſeverall Towers or Turrets, and a Mote or Ditch about it, either dry, or full of water.

That the Hold is the Block-houſe, or Redont in a Caſtle, unto which uſually the laſt Retreat is made.

That a place of Armes, is an empty ſpace within the walls, whereunto the principall ſtreets do lead, and where the Souldiers doe aſſemble to receive orders for the Guards or any other Commands, and likewiſe there tobe exerciſed.

That a peculiar place of Armes, is a certaine ſpace near unto every Baſtion, or at the foot of the Rampart whither the Souldiers are ſent from the maine guard, to repaire unto their ſeverall Poſts, as well to relieve thoſe on the Guards, as to refreſh, and relieve them that fight.

That the Rampart is an elevated earth, which incloſes the place, and is capable to reſiſt the Canon ſhot.

That a Panapet, is a banke of Earth raiſed on the Rampart, behinde which the Souldiers may give fire in ſafety.

That the Banquet, or Foot-banke, is a little height of Earth, on which the Souldiers ſtand when they give fire.

That the Maine breadth, or walk, is that part of the Rampart which is made eaven, and ſollid, for the recoil of the Cannon, and on which the Souldiers march in a body.

That the way for the Rounds, or falſe bray, is the ſpace between the Rampart, and the Liſt or Berme, where an Enemy is to be reſiſted when he draws near the Town, and when the ſhot from the Rampart can do no more execution on the Aſſailants. That its Panapet, is like to that of the main Rampart, with its Foot-banke.

That

That the Liſt or Berme, is the ſupport of the Falſe-bray, next adjoyning to the Mote. That the Mote or Ditch, is an empty depth, or full of water, environing the Town, or Fortreſſe. That the little Ditch or Cave, is a ſmall overture in the midſt of the great Mote, deeper then the ſaid Mote.

That the Conidor, or covered way, is raiſed on the Counterſcarp, and ſecured by its Panapet, its foot-bank and the ſloape. That its Panapet is the outmoſt Breaſt-work beyond the Mote; and that it termineth it ſelfe, ſlantingly, or ſhelvingly with the plaine Field.

That Cavalliers or Platformes, are raiſed eminencies, or rather naturall ones, either on the Curtaine or Bulwarks, over-topping the reſt of the workes as a Horſe-man, may be ſaid to do one on foot.

That Half-Moons are ſmall Works advanced towards the Fields, and are uſually placed before the points of the Baſtions for their re-inforcement, having ſmall Flanks.

That a Ravelin is a peece of Fortification conſiſting onely of two Faces, uſually placed in the Mote, before the Curtains, and Gates.

That Flatformes are all kinde of Fortifications built on outward Angles.

That Horne works, are advanced towards the Fields, having halfe Baſtions at their heads, and are uſually placed on the weakeſt parts of a Fortreſſe, to hinder and retard the approaches of an Enemy towards the maine Works of the place.

That Crown works are advanced into the Fields, much like the Horne works, broad before, and narrow behinde, with one, two, or more Baſtions, in the midſt,

and on each ſide a halfe Baſtion; and they are placed on ſuch Eminencies as chance to over-top any Fortreſſe. That Tenalies are much like Horn-works, ſave that they have no Bulwarks. That Star Sconces, have onely flanking ſides, either of foure, five, or ſix Angles, and derive their name from the reſemblance of a Star, being uſually placed on the Trenches.

That Redouts are little ſquare workes, placed here and there in Trenches and approaches, for the ſtrengthning of them, and are alſo ſometimes advanced on the advenues in the Fields.

That Trenches are Works containing and incloſing the whole Camp, by a continued line, called the line of Circumvalation: As alſo they ſerve to environ and fortifie the whole Army, or any part thereof.

That approaches are lanes digged through the Earth, by the which an aſſailant may with ſecurity advance unto a Fortreſſe, without being endangered by the Enemies ſhot.

That Counter approaches are ſuch like lines which the beſieged make, to croſſe and interrupt by their Sallyes the Enemies approaches.

That a Gallery, is a covered way made over the Mote, it being filled with Bavens, and Earth, whereon Gabents are placed at certaine diſtances to uphold the Gallery; which being lined on the ſides with good Oken Planks, and likewiſe boarded on the top, is ſecured from the Enemies ſhot, and Granadoes, and thereby the Souldiers are ſafely conducted over the Mote, to ſtorme a breach, or for the Miners to open a Mine.

That a breach is a Rupture, which either by Canon

ſhot,

ſhot, or by the ſpringing of a Mine, is made in ſome one part of the Bulwark or Curtain, and by the which the aſſailants may enter the Fortreſſe.

That a Mine is a Trench or ſecret hidden Alley, ſunck under the face of a Baſtion, Curtain, or any outworke, wherein a Chamber being made, and powder placed, it ſerves to ruine and blow up an enemies work, and ſo to facilitate an entrance, Which art of undermining hath been made uſe of both in the *Greeks* and *Romans* time.

That Gabions are defences made of Baskets, filled with earth, and they are of ſeverall heights, and thickneſſes, as to reſiſt Cannon ſhot on batteries, mulket ſhot *in* approaches, or Sconces.

That there are other Countermines or Cavernes, Vaulted lanes, or Allies, called Trenches, which are uſually made under the foote bancke, running along the rampart, with many vents, reaching from the bottome to the top of the Rampart, for to hinder and breake the force of the powder, and alſo to ſwallow up the ruines of the Mine, which otherwayes would render the breach more large, and its acceſſe more eaſie.

That re-Intrenchments are freſh works, made to defend the ruined rampart, being ſeparated from the ſame within the place, and ſuch like are to be provided in time, to ſuſtain an enemies aſſault, and make good the place, till the capitulations can be made.

That all eminencies or places commanding each other in a Fortreſſe, are only heights of nine foot, or there abouts, over-topping the reſt of the workes, that

theſe eminencies may be made either ſimple or compoſed, ſteep and precipitated, flanking the breach, either in front, ſideways, or backwards.

That Candleſtickes, or blindes, are high peeces of timber ſtakes, which ſerve to uphold either branches of Trees, Rice buſhes or Planks, and by the which, blinds are made to hinder the enemies viewing or diſcovering of the Aſſailants, Approaches, or Sappings.

That Palliſadoes are a defence of high ſtakes of Timber, ſet together like pales, ſhod on the top with Iron forked heads, which are for the moſt part placed on the outſides of the Fortreſſe, as alſo at the foote of the Curtaines, Rampart, and oftentimes of the levelled outworke, or Eſplanade, ſome two or three foote diſtant from the Conidor or covered way.

That Baracadoes on Turn-Pikes are to be bodies of trees cut in ſeverall ſquares; and are fortified with ſeverall ſtaves of an halfe Pikes length ſhod with Iron, which are paſſed through the ſaid bodies of trees, facing to all ſides on which they were ſeverally placed, as on paſſages, advenues, or breaches, both for to hinder the advance of Horſe or foot

That there is alſo another kind of defence, or Palliſadoe, called a Ruffe, conſiſting of wooden ſtakes, ſhod with Iron pegges, and that they are placed ſloaping wiſe, on the middle height of the faces of any Fortreſſe, as alſo on the out-workes.

That theſe defences are very neceſſary to diſcover an Enemies intended ſurprize, or ſuddaine attalke, as alſo to hinder any Souldiers from running out of the place, or ſtealing away by night.

And therefore to proceed methodically, we ſhall begin

begin with the Governour of a place, and with thoſe qualities which he ought to poſſeſſe.

Of the Governour.

AS the Governour in a place, repreſents either the State or the Sovereign, ſo of his Fidelity, Diligence, and Courage, depends queſtionleſſe the preſervation of the Inhabitants of the land, as well as of the place, and it is therefore one of the moſt importanteſt charges to a State, for that in effect the preſervation of a ſhire, nay, of the whole Country is often concerned in that of one particular Towne, as the loſſe of ſuch places prove oftentimes no leſſe prejudiciable then that of an Army: After a battle is fought men may be rallied, and an Army may be made up againe, by a retreate unto an adjacent ſtrong place, which when once fallen into the poſſeſſion of an enemy, is neither ſo eaſie, nor ſo ſoone recovered againe, therefore great care muſt be taken in the election of Governours, for ſuch places of importance: And that a State may not be deceived, their perſons muſt bee well knowne to bee men of godlineſſe, and that they may poſſeſſe as much as poſſible can be, all the moſt neceſſary qualities requiſite in a Governour.

Men of two great power and credit muſt not be put into ſtrong frontier Townes, for that a Soveraigne or a State would otherwayes be conſtrained to yeeld unto them in all that they may demand, for if they ſhould but ſeem to diſpleaſe them, its then to be feared that on the leaſt occaſion, ſuſpition, or diſcontent; they would be apt to revolt.

Thoſe

Thoſe of a low ranke, except they have ſome notable vertue which makes them commendable, as their long ſince knowne honeſty, and tryed fidelity, are worſe then the former; for that being men who have little to looſe, are not to bee relyed on in that they may be ſoone wrought upon by the proffers of an enemy.

Thoſe of a meane or indifferent condition between both are the fitteſt for ſuch a truſt, ſince they are not ſubject to the foreſaid faults; being not powerful enough to make a party for to revolt, and though they ſhould do ſo, yet can they not make their party good, beſides that, divers conſiderations will hinder them to render themſelves to an Enemy: having their friends, their kindred, their familie, their meanes, their houſes, in regard of which they will not ſo ſoon venture to looſe all thoſe certainties, for a doubtfull hope. When they muſt (by the betraying that truſt repoſed in them) ſubmit themſelves to the mercy of an Enemy, who is apt enough to imbrace that treaſon which brings him profit, and honour, but ever diſpiſeth, nay hateth the Traytour.

King *Henry the* fourth of *France*, among many great actions, is to be remembred eternally in this particular, that he ſent notice to the Duke of *Joyeuſe* of a Traytor, who came to the ſaid King with an offer to kil that Duke, and many ſuch like examples may be alledged to confirme that Traytors are alwayes to bee had in abomination.

And it is altogether neceſſary to conſider how thoſe perſons, who are to be choſen for Governours, have lived, Nature cannot be forced, for a long time will

ſcarce

ſcarce ſerve to diſcover mens inclinations, and thoſe who have all their life time lived honorably, wil hardly commit a baſe action, when they ſhall be put into ſuch a place of truſt; but ſuch as are of an ill diſpoſition will ſoon fall into relapſes, and ſhake off that conſtraint which made them to diſguiſe their vices: Nature alwayes comes to its ſelfe, neither can diſſimulations laſt long.

Such as have alwayes approved themſelves true, and who have had ſeverall imployments whereby they have given a teſtimony of themſelves, are to be preferred unto all others. And many have been found, who at firſt could ſo well counterfeit their humours as they have made themſelves to bee eſteemed brave men, and by their impudence in forging lyes, have obtained the Government of moſt important places, which they have moſt miſerably loſt ſo ſoone as they were ſet upon, and though their heads were taken off, yet the Townes were not thereby re-gained.

And if any Government bee conferred by way of reward for ſervices done by aged men, its not fit to put them into Frontier Townes, for that inſtead of procuring reſt unto them, they would be put unto turmoyles and labours.

They muſt bee men of vigour, and ſuch as may beſtirre themſelves, and are able to indure hardneſſe, paines, and take care both for the preſervation of the place, and of the land, and for its defence in caſe it bee attacht: He that will acquit himſelfe well of this charge, ought not to ſleepe in the nights, but muſt keepe both the Souldiers and the Inhabitants in a perpetuall feare, hee muſt take a continuall care of

them, and often visit the Walls and Rounds.

Those that are old, are fittest for such places as are in the maine body of the Land, wherein the cares and paines are not so requisite.

And besides these naturall qualities they ought to have others, partly acquired by study, and partly by exercise and experience, they ought above all things to know their charge and duty, for its altogether absurd, to give Government to such persons as know not what they are to govern, and how they are to command, neither is it then time to learn, since it proves of too dangerous a consequence, for that the faults then committed are of too great consequence, and cannot be redrest.

Neither will it justifie, that they have read or heard say: they must have seene divers sieges, and especially they must have seene how Townes are set upon, whereupon they will have discovered and observed both the offence and defence of places, for that such a one who hath not been in the like occasions, findes himselfe pusled, and knows not what to resolve unto, for that all events surprize him, and all that an enemy doth affrightens him, a potent Army that summons him, so many Canons that incessantly batters him, Trenches so suddenly comming upon him (at least the first) all which makes him apprehend, that his Towne is set upon by some other way then ordinary, and that its impossible to hold out against such on-sets: Then they easily beleeve they have done their duty, and that they may render themselves up, when they ought but to begin to defend themselves in good earnest.

To the contrary, a man that hath seene divers sieges per-

perſwades himſelfe, that he ſhall in a little ſpace ſee the great part of that Army periſh, and all the continuall ſhooting of the enemies Canon, can doe him but little harme, that the firſt workes are eaſily advanced, and ſo never is aſtoniſhed at any event, for that he well knowes what an Enemy can doe, and in caſe any thing ſhould happen contrary to his expectation, yet his expereince and judgement affords him meanes to remedy the ſame. Hee well knowes how the Enemy muſt advance, what they can attempt, and how he can oppoſe them, as alſo to what extremity or paſſe he ought, or can hold out, ſo that he never yeelds untill he hath done all what a man of honor is capable of.

Neitheir ſhall we need to ſpeake of courage, ſince to tell you, that a man pretending to aGovernment ought to be couragious, would be as frivolous as to ſay, that a Souldier ought to have a Sword, for that the one and the other ought to be inſeparable, ſo when one is ſaid to be a Governor, its to be ſuppoſed that he is couragious, and conſequently free from the two vices which are the two extreames of that vertue.

Thoſe that are to be commanded, and who muſt only execute, can never have too much courage, and the exceſſe thereof is very good in them, but ſuch as have all the command, and are alone, muſt not be preſumptuous, eſpecially thoſe who defend a place: For if they go raſhly to work, and if they make daily ſallies, without taking the advantages both of time and place, and if they continually hazzard themſelves, they will ſoon cauſe the loſſe not onely of their beſt Souldiers, but of themſelves, and ſo conſequently the place wil be taken.

They muſt conſider that they are conſtituted in the place, for to keep it, and to defend it as long as they can, ſo that if they chance to occaſion the loſſe thereof, either out of a vanity, to manifeſt that they feare nothing; or on the contrary by too much timerouſneſſe, they are then equally guilty, both in the one, and in the other particular, and ſo the State or the Soveraign, chanceth to loſe the place by either.

A Governour then ought to be prudent, of an undaunted mind, who ſtarts at nothing; who gives courage to others; who when its requiſite for him, to prove a bold man, muſt at the ſame time remember his owne preſervation, as well as that of the place, to defend it as long as hee can, and in caſe will periſh in the ſame, rather then ſurvive its loſſe, That it be at the laſt on-ſet, and utmoſt reſiſtance.

What Vices a Governour ought to ſhunne.

There are certaine Vices of which all honeſt men ought to be free: Ungodlineſſe the firſt, ſince thoſe cannot expect Gods aſſiſtance, who doe not acknowledge him, and that place is guarded in vain, if God doe not guard the ſame.

Covetouſneſſe in a Governour is unſupportable, for that he will racke the Country, hee will not pay his Souldiers, he will acquire the hatred of the inhabitants and ſo be odious to all men, and be abandoned of all his Garriſon, and moreover ſuch a one is likewiſe ſubject to be corrupted.

Drunkenneſſe is no leſſe to be abhorred, for that a drunken man is void of reaſon, and if in that moment a place ſhould be ſet upon, it muſt be loſt of neceſſity for want of Orders, beſides that, all other do eaſily follow his

his example; and ſo give an Enemy juſt cauſe to watch for, and take their advantage at their uſuall times of Meriments; for that no place ought to be entruſted to a man that cannot conſerve himſelf.

A Governour ought to be verſed in the *Military* Lawes, for to order, and puniſh according to the Souldiers miſdemeanour; he ought likewiſe to underſtand the Civill Law to order all fit eſtabliſhments, and to cauſe them to be obſerved; as likewiſe to decide ſuch differences as may chance to ariſe between the Souldiers themſelves; or between the Souldiers, and the Inhabitants.

The firſt, its true, are ready framed; to that its onely needfull to reform them according to the exegency of times, and occaſions; and for the other, a man may remit himſelfe to Juriſts, ſince neither the one, nor the other do properly belong to the preſervation, or defence of the place.

A Governour ought to eſteem his place as the moſt deareſt thing in the world to him, and whereon his honor, and life depends: And at his entrance therein, he ought to repreſent unto himſelfe, that he deſerves not to live after its loſſe, ſo that he ought to have as much care of it, as of his own preſervation; and he is bound in duty continually to thinke on the bettering of his place, how it may be beſt guarded, beſt provided; and to thinke in peaceſull times, what he might ſtand in need of when the Wars ſhould be renewed, and ſo to provide for all; for that no man of ſenſe, or reaſon will leave any thing at a venter; nor ever ſay, who would have thought this, or that.

The greateſt honour for a Governour.

To conclude, I ſhall ſay, that there is no place in the Wars, wherein more honour is to be gotten, then in a Governour, when he is ſet upon, and defends himſelf well in a good place. For that in Combats, Fortune hath the greateſt ſhare; parties are oft equall, the courſes are not regular; ſo he that beſiegeth hath alwayes a divided command, for that divers onſets are to bee made, which are to be performed by ſundry Commanders; and it is to be preſuppoſed that the beſieger comes with ſufficient forces to take the place.

And finally, that all beſieged places muſt be taken; ſo that he that takes it not, deſerves more blame, then honour, when he ſhall have taken it. For that the one is directly contrary to that which was expected, and ſuppoſeth a default; and the other was a thing which was ſure to come to paſſe.

The great advantages in ſtanding out a Siege.

Now he that defends a place; firſt he is alone in power, and all what he doth, is attributed directly unto him, be it well or ill done; the defence depends of his perſon, and of his carriage, and but very little of Fortune; ſo that if he defends himſelfe in ſuch a manner, as he conſtrains his enemies to raiſe the ſiege, it muſt needs be admirable; ſince it was againſt the opinion of all men, in that he held longer then it was expected he could; all which is attributed unto the perſon that commandeth in the place.

Laſtly, it may truly be ſaid, that he who ſtands out a Siege, gets more honour, then he that wins a Battle; for that by his gallant reſiſting, he deſtroyes an Enemies Army, ſaves his owne men and place, and ſecures the State, &c.

In

In the next ensuing Lectures on the *Military* Art, there shall bee treated, of that which a Governour ought to doe at his entrance into a place where he is to command. Of the orders he is to give concerning the Civill Government, unto what duties the Souldiers are to be kept; his forecast to discover the disposition of his Souldiers, and their Officers.

What number of men he ought to have; how they are to be armed, and what spare Arms he ought to be furnisht with, what care he ought to have for the preservation of his spare Arms. Of the necessary Ammunitions of War, as well as those of Victualls, and the like.

How he may discover the defects of his places. What he ought to know of Fortifications, and wherein its perfection doth consist.

Of its construction, and its defensive Lines; and consequently on all the necessary parts thereof; all which by the grace of God, shall be declared at large.

So that for the present, wee will close this with a short Meditation fit for all good Christians; That if so be it be necessary, to have so many qualities, and to take so much care for the preservation of a small compasse and parcell of clay, loam, and of a few houses within the circumference of a Wall or Bulwark: What care ought we then to have (but meer dust and ashes) for the preservation of our soules, placed in an habitation, continually beset by an Army, compassed by legions of Princes of the Ayre, by Spirits of darknesse and destruction, who are never to be tyred, who need neither to borrow or buy any Victualls, for their subsistance, who have numberlesse engines at hand, who

have

have placed their Petards and murdering peeces at all the gates of our Senſes, and never run any danger themſelves of being ſurpriſed, though they have millions of deceits, to enſnare the onely two Sentinels of our body, our Eies, by giving a world of falſe alarm; To ſurpriſe our Hearing; and who at the very firſt, ſtrike at the maine Fortreſſe, the Heart, and the Minde of Men: And if ſo be the gaining of all the world, be nothing, in compariſon unto the loſſe of one ſoule; O what a precious task muſt the preſervation of that Soul be againſt the grand and common Enemy to mankinde; and what an honour is the preſerving thereof! as it ought to be Mans ſole bliſſe; who can never miſcarry therein, ſo long as he fixeth on his ſtrong Tower, and Fortreſſe of defence; and that he doth continually watch, pray, and manfully fight the good combate of Faith; hereby the greateſt honour is to be acquired, for that by ſo doing, the grand Enemy will be forc't to break up his ſiege, and retire.

It was the fervent, zealous, and moſt pious prayers of the Royall Prophet *David, That Gods enemies might bee confounded and be put to flight*; And what can we deſire more, then that by his unſpeakable mercies (we that are the precious gems for the which Chriſt Jeſus hath ſpilt his moſt precious blood) have made the grand Enemy of our ſouls to retire, *&c.*

The end of the firſt Lecture of
FORTIFICATION.